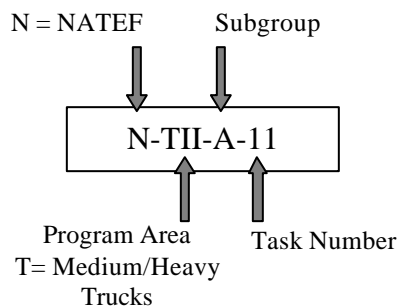


## DIESEL: PREVENTIVE MAINTENANCE

### COURSE DESCRIPTION

***Diesel: Preventive Maintenance Inspection*** is a course offering training in the inspection and servicing of heavy trucks. The course introduces students to proper procedures and practices for preventive maintenance and servicing. Students learn to perform entry-level technician inspection tasks. Students upon completion of the course will be eligible to take the ASE (Automotive Service Excellence) examination for Heavy Truck Preventive Maintenance.

<b>Prerequisite(s):</b>	Transportation Core Algebra I or Math for Technology II; Physical Science or Principles of Technology I (may be concurrent)
<b>Required:</b>	A minimum of 105 hours must be dedicated to diesel preventive maintenance to meet minimum standards set by NATEF.
<b>Recommended Credits:</b>	1
<b>Recommended Grade Level(s):</b>	10 <sup>th</sup> , 11 <sup>th</sup> , or 12 <sup>th</sup>
<b>Notes:</b>	Course is aligned with NATEF tasks list for medium/heavy trucks. Items have been organized based on the requirements of the state-required course description format. NATEF tasks are referenced with the corresponding Performance Standards. Codes are as follows:



<b>DIESEL: PREVENTIVE MAINTENANCE INSPECTION STANDARDS</b>
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- 1.0 Students will demonstrate leadership, citizenship, and teamwork skills required for success in the school, community, and workplace.
- 2.0 Students will demonstrate diesel technology safety practices, including Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) requirements for a diesel repair facility.
- 3.0 Students will demonstrate proper procedures for inspecting vehicle engine systems.
- 4.0 Students will demonstrate proper procedures for inspecting vehicle cab and hood.
- 5.0 Students will demonstrate proper procedures for inspecting vehicle electronics and electrical systems and components.
- 6.0 Student will demonstrate proper procedures for inspecting vehicle frames and chassis.
- 7.0 Students will demonstrate communication skills required in the diesel service industry.
- 8.0 Students will demonstrate interpersonal and employability skills required in the diesel service industry.

## **DIESEL: PREVENTIVE MAINTENANCE INSPECTION**

### **STANDARD 1.0**

Students will demonstrate leadership, citizenship, and teamwork skills required for success in the school, community, and workplace.

### **LEARNING EXPECTATIONS**

The student will:

- 1.1 Demonstrate positive leadership and ethical work skills.
- 1.2 Illustrates the theme of SkillsUSA-VICA as an integral part of classroom instruction.
- 1.3 Assess situations and apply problem-solving and decision-making skills to peer and family relationships.
- 1.4 Demonstrate the ability to work as a team member in a professional setting.

### **PERFORMANCE STANDARDS: EVIDENCE STANDARD IS MET**

The student:

- 1.1 Demonstrates character, leadership, and integrity using creative and critical-thinking skills.
- 1.2.A Applies the points of the creed and purposes of SkillsUSA-VICA to personal and professional situations.
- 1.2.B Participates and conducts meetings and other business according to accepted rules of parliamentary procedure that will enhance learning in the classroom and school.
- 1.3.A Analyzes situations in the classroom and workplace and uses problem-solving techniques to solve the problem.
- 1.4.A Participates in a community service project.
- 1.4.B Participates in a Tennessee SkillsUSA-VICA leadership development activity.

### **SAMPLE PERFORMANCE TASKS**

- Create a leadership inventory and use it to conduct a personal assessment.
- Participate in various SkillsUSA-VICA programs and/or competitive events.
- Evaluate an activity within the school, community, and/or workplace and project effects of the activity.
- Implement an annual program of work.
- Prepare a meeting agenda for a SkillsUSA-VICA monthly meeting.
- Attend a professional organization meeting.
- Participate in the American Spirit Award competition with SkillsUSA-VICA.

### **INTEGRATION LINKAGES**

SkillsUSA-VICA, *Professional Development Program*, SkillsUSA-VICA, Communications and Writing Skills, Teambuilding Skills, Research, Language Arts, Sociology, Psychology, Math, Math for Technology, Applied Communications, Social Studies, Problem Solving, Interpersonal Skills, Employability Skills, Critical-Thinking Skills, Secretary's Commission on Achieving

State Board of Education Approved

February 2002

Necessary Skills (SCANS), Chamber of Commerce, Colleges, Universities, Technology Centers,  
and Employment Agencies

## **DIESEL: PREVENTIVE MAINTENANCE INSPECTION**

### **STANDARD 2.0**

Students will demonstrate diesel technology safety practices, including Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) requirements for a diesel repair facility.

### **LEARNING EXPECTATIONS**

The student will:

- 2.1 Determine the safe and correct application for chemicals used in a diesel repair facility.
- 2.2 Use protective clothing and safety equipment.
- 2.3 Use fire protection equipment.
- 2.4 Follow OSHA and EPA regulations affecting diesel service technology.
- 2.5 Respond to safety communications.

### **PERFORMANCE STANDARDS: EVIDENCE STANDARD IS MET**

The student:

- 2.1.A Conforms to federal, state, and local regulations when handling, storing, and disposing of chemicals.
- 2.1.B Ensures proper ventilation for chemical use.
- 2.1.C Locates first aid supplies.
- 2.2.A Demonstrates proper usage of special safety equipment.
- 2.2.B Selects and uses the appropriate protective clothing for a given task.
- 2.2.C Demonstrates the use of eye, ear, and respiratory protection.
- 2.3.A Selects the proper fire extinguisher for each class of fire.
- 2.3.B Demonstrates the proper use of a fire extinguisher.
- 2.4.A Locates regulatory information.
- 2.4.B Extracts information from Material Safety Data Sheets pertaining to shop chemicals.
- 2.4.C Complies with relevant regulations and standards.
- 2.5.A Interprets safety signs and symbols.
- 2.5.B Complies with safety signs and symbols.
- 2.5.C Interprets manufacturer communications pertaining to safety issues.

### **SAMPLE PERFORMANCE TASKS**

- Assess the work area for safety hazards.
- Design a corrections program for identified hazards.
- Model the appropriate protective equipment for an assigned task.

INTEGRATION LINKAGES

Science, Math, Math for Technology, Technology Literacy, Applied Communications, Problem-Solving, National Institute for Automotive Service Excellence (ASE), National Automotive Technician Education Foundation (NATEF), Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Tennessee Occupational Safety and Health Administration (TOSHA), Secretary's Commission on Achieving Necessary Skills (SCANS), SkillsUSA-VICA

## **DIESEL: PREVENTIVE MAINTENANCE INSPECTION**

### **STANDARD 3.0**

Students will demonstrate proper procedures for inspecting vehicle engine systems.

### **LEARNING EXPECTATIONS**

The student will:

- 3.1 Inspect the vehicle engine.
- 3.2 Inspect the fuel system.
- 3.3 Inspect the air induction and exhaust system.
- 3.4 Inspect the cooling system.
- 3.5 Inspect the lubrication system.

### **PERFORMANCE STANDARDS: EVIDENCE STANDARD IS MET**

The student:

- 3.1.A Checks engine starting/operation (including unusual noises, vibrations, exhaust smoke, etc.) and records idle and governed rpm (rotations per minute).
- 3.1.B Inspects vibration damper.
- 3.1.C Inspects belts, tensioners, and pulleys; checks and adjusts belt tension.
- 3.1.D Checks engine oil level and checks engine for oil, coolant, and fuel leaks (engine off and engine running).
- 3.1.E Inspects engine mounts for looseness and deterioration.
- 3.1.F Checks electrical wiring, routing, and hold-down clamps, including Engine Control Module/Powertrain Control Module (ECM/PCM).
- 3.2.A Checks fuel tanks, mountings, lines, caps, and vents.
- 3.2.B Inspects throttle linkages and return springs.
- 3.2.C Drains water from fuel system.
- 3.2.D Inspects water separator/fuel heater.
- 3.2.E Replaces fuel filters.
- 3.2.F Primes and bleeds fuel system.
- 3.3.A Checks exhaust system mountings for looseness and damage.
- 3.3.B Checks engine exhaust system for leaks, proper routing, and damaged or missing components.
- 3.3.C Checks air induction system, including piping, charge air cooler, hoses, clamps, and mountings; checks for air restrictions and leaks.
- 3.3.D Inspects turbocharger for leaks; checks mountings and connections.
- 3.3.E Checks operation of engine/exhaust brake.
- 3.3.F Services or replaces air filter as needed; checks and resets air filter restriction indicator.
- 3.4.A Checks operation of fan clutch.
- 3.4.B Inspects the following:
  - radiator (including air flow restriction, leaks, and damage) and mountings.
  - fan assembly and shroud.
  - coolant recovery system.
  - coolant hoses and clamps.
- 3.4.C Pressure tests cooling system and radiator cap.

- 3.4.D Checks coolant for contamination, supplemental coolant additives (SCA) concentration, and protection level (freeze point).
- 3.4.E Services coolant filter/conditioner.
- 3.5.A Changes engine oil and filters.
- 3.5.B Visually checks oil for coolant or fuel contamination.
- 3.5.C Inspects and cleans magnetic drain plugs.
- 3.5.D Takes an engine oil sample.

### SAMPLE PERFORMANCE TASKS

- Demonstrate process for inspecting engine system.
- Determine if air filter needs replacement and replace if needed.
- Determine if engine oil is contaminated and change if needed.
- Using case scenarios follow strategy based diagnostic procedure to verify the complaint, define the problem, isolate the problem, validate the problem, make the repair, and test the repair. Complete a repair order using technical writing skills and calculate salary earnings based on the repair order description and manufacture allowances for each item on the work order. Calculate manufacturer labor operation time used in the diagnostic process.

### INTEGRATION LINKAGES

Science, Math, Math for Technology, Technology Literacy, Applied Communications, Problem-Solving, National Institute for Automotive Service Excellence (ASE), National Automotive Technician Education Foundation (NATEF), Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Tennessee Occupational Safety and Health Administration (TOSHA), Secretary's Commission on Achieving Necessary Skills (SCANS), SkillsUSA-VICA



## **DIESEL: PREVENTIVE MAINTENANCE INSPECTION**

### **STANDARD 4.0**

Students will demonstrate proper procedures for inspecting vehicle cab and hood.

### **LEARNING EXPECTATIONS**

The student will:

- 4.1 Inspect instruments and controls.
- 4.2 Inspect safety equipment.
- 4.3 Inspect hardware.
- 4.4 Inspect heating, ventilation, and air conditioning (HVAC).

### **PERFORMANCE STANDARDS: EVIDENCE STANDARD IS MET**

The student:

- 4.1.A Inspects key condition and operation of ignition switch.
- 4.1.B Checks warning indicators and instruments; records oil pressure and system voltage.
- 4.1.C Checks mechanical, electronic, and emergency shut down operation.
- 4.1.D Checks the following controls:
  - mechanical and electronic engine speed controls.
  - heater, ventilation, and air conditioning (HVAC) controls.
- 4.1.E Checks operation of all accessories.
- 4.1.F Extracts engine monitoring information using a diagnostic tool or on-board diagnostic system.
- 4.2.A Checks operation of electric/air horns and back-up warning devices.
- 4.2.B Checks condition and documentation of safety flares, spare fuses, triangles, fire extinguisher, and all required decals.
- 4.2.C Inspects seat belts and sleeper restraints.
- 4.2.D Inspects wiper blades and arms.
- 4.3.A Checks the following:
  - wiper and washer operation
  - windshield glass condition
  - sun visor
  - seat condition, operation, and mounting
  - door glass and window operation.
- 4.3.B Inspects the following:
  - steps
  - grab handles
  - mirrors, mountings, brackets, and glass.
- 4.3.C Records all observed physical damage.
- 4.3.D Lubricates all cab and hood grease fittings.
- 4.3.E Inspects and lubricates door and hood hinges, latches, strikers, lock cylinders, safety latches, linkages, and cables.
- 4.3.F Inspects the following and services as needed:
  - cab mountings, hinges, latches, linkages and ride height.
  - tilt cab hydraulic pump, lines, and cylinders.
  - safety devices.

- 4.4.A Inspects A/C condenser and lines for condition and visible leaks; checks mountings.
- 4.4.B Inspects A/C compressor and lines for condition and visible leaks; checks mountings.
- 4.4.C Checks A/C system condition and operation and checks A/C monitoring system (if applicable).
- 4.4.D Checks HVAC air inlet filters and ducts and services as needed.

#### SAMPLE PERFORMANCE TASKS

- Check oil pressure and record results.
- Locate and record any physical damage to a vehicle cab.
- Inspect cab safety devices and perform appropriate service if indicated.
- Using case scenarios follow strategy based diagnostic procedure to verify the complaint, define the problem, isolate the problem, validate the problem, make the repair, and test the repair. Complete a repair order using technical writing skills and calculate salary earnings based on the repair order description and manufacture allowances for each item on the work order. Calculate manufacturer labor operation time used in the diagnostic process.

#### INTEGRATION LINKAGES

Science, Math, Math for Technology, Technology Literacy, Applied Communications, Problem-Solving, National Institute for Automotive Service Excellence (ASE), National Automotive Technician Education Foundation (NATEF), Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Tennessee Occupational Safety and Health Administration (TOSHA), Secretary's Commission on Achieving Necessary Skills (SCANS), SkillsUSA-VICA

## **DIESEL: PREVENTIVE MAINTENANCE INSPECTION**

### **STANDARD 5.0**

Students will demonstrate proper procedures for inspecting vehicle electronics and electrical systems and components.

### **LEARNING EXPECTATIONS**

The student will:

- 5.1 Inspect vehicle battery and starting systems.
- 5.2 Inspect vehicle charging system.
- 5.3 Inspect vehicle lighting system.

### **PERFORMANCE STANDARDS: EVIDENCE STANDARD IS MET**

The student:

- 5.1.A Inspects battery boxes, covers, and mountings.
- 5.1.B Inspects battery hold-downs, connections, cables, and cable routing; services as needed.
- 5.1.C Checks and records battery state-of-charge (open circuit voltage) and condition.
- 5.1.D Performs battery load test.
- 5.1.E Inspects starter, mounting, and connections.
- 5.1.F Engages starter and checks for unusual noises, starter drag, and starting difficulty.
- 5.2.A Inspects alternator, mountings, wiring and wiring routing; determines needed action.
- 5.2.B Performs alternator current output test.
- 5.2.C Performs alternator voltage output test.
- 5.3.A Checks operation of interior lights and determines needed action.
- 5.3.B Checks all exterior lights, lenses, and reflectors.
- 5.3.C Checks headlight alignment and determines needed action.
- 5.3.D Inspects and tests tractor-to-trailer multi-wire connectors, cables, and holders; determines needed action.

### **SAMPLE PERFORMANCE TASKS**

- Perform complete battery inspection and perform appropriate service where indicated.
- Determine if headlights are in alignment and make adjustment if indicated.
- Using case scenarios follow strategy based diagnostic procedure to verify the complaint, define the problem, isolate the problem, validate the problem, make the repair, and test the repair. Complete a repair order using technical writing skills and calculate salary earnings based on the repair order description and manufacture allowances for each item on the work order. Calculate manufacturer labor operation time used in the diagnostic process.

### **INTEGRATION LINKAGES**

Science, Math, Math for Technology, Technology Literacy, Applied Communications, Problem-Solving, National Institute for Automotive Service Excellence (ASE), National Automotive Technician Education Foundation (NATEF), Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Tennessee Occupational Safety and Health

Administration (TOSHA), Secretary's Commission on Achieving Necessary Skills (SCANS),  
SkillsUSA-VICA

## **DIESEL: PREVENTIVE MAINTENANCE INSPECTION**

### **STANDARD 6.0**

Students will demonstrate proper procedures for inspecting vehicle frames and chassis.

### **LEARNING EXPECTATIONS**

The student will:

- 6.1 Inspect air brakes.
- 6.2 Inspect hydraulic brakes.
- 6.3 Inspect drive train.
- 6.4 Inspect suspension and steering systems.
- 6.5 Inspect tires and wheels.
- 6.6 Inspect frame and fifth wheel.

### **PERFORMANCE STANDARDS: EVIDENCE STANDARD IS MET**

The student:

- 6.1.A Performs the following checks and tests:
  - Checks parking brake operation.
  - Checks air drier drain valve operation.
  - Checks air system for leaks (brakes released).
  - Checks air system for leaks (brakes applied).
  - Checks low air pressure warning devices.
  - Checks air governor cut-in pressure.
  - Checks spring brake inversion system, if applicable.
  - Checks tractor protection valve.
  - Checks brake chambers and air lines for secure mounting and damage.
  - Checks operation of brake manual slack adjusters; adjust as needed.
  - Checks operation and adjustment of brake automatic slack adjusters.
  - Checks camshaft and bushing condition.
  - Checks condition and operation of hand brake (trailer) control valve.
  - Tests one-way and double-check valves.
  - Tests air pressure build-up time.
  - Performs antilock brake system (ABS) operational system self-test.
- 6.1.B Records air governor cut-out setting (psi).
- 6.1.C Inspects coupling air lines, holders, and glad-hands.
- 6.1.D Services air drier.
- 6.1.E Inspects and records the following:
  - brake lining/pad condition and thickness.
  - condition of brake drums/rotors.
- 6.1.F Lubricates all brake component grease fittings.
- 6.2.A Checks master cylinder fluid level and condition.
- 6.2.B Inspects brake lines, fittings, flexible hoses, and valves for leaks and damage.
- 6.2.C Checks parking brake operation; inspect parking brake application and holding devices.
- 6.2.D Checks operation of hydraulic system: pedal travel, pedal effort, pedal feel (drift).

- 6.2.E Performs the following inspections:
  - Inspects wheel cylinders/calipers for leakage and damage.
  - Inspects power brake booster(s), hoses; and check/control valves.
  - Inspects and records brake lining/pad condition and thickness.
  - Inspects and records condition of brake drums/rotors.
- 6.2.F Adjusts drum brakes.
- 6.3.A Performs the following checks:
  - Checks operation of clutch, clutch brake, and gearshift.
  - Checks clutch linkage/cable for looseness or binding, if applicable.
  - Checks hydraulic clutch slave and master cylinders, lines, fittings, and hoses, if applicable.
  - Checks clutch adjustment.
  - Checks transmission case, seals, filter, hoses, and cooler for cracks and leaks.
  - Checks transmission oil level, type, and condition.
  - Checks drive axle(s) oil level, type, and condition.
  - Checks two-speed axle unit operation and oil level.
- 6.3.B Performs the following inspections:
  - Inspects transmission breather.
  - Inspects transmission mounts.
  - Inspects U-joints, yokes, drive lines, and center bearings for looseness, damage, and proper phasing.
  - Inspects axle housing(s) for cracks and leaks.
  - Inspects axle breather(s).
- 6.3.C Lubricates all drive train grease fittings.
- 6.3.D Changes drive axle(s) oil and filter; checks and cleans magnetic plugs.
- 6.3.E Changes transmission oil and filter; checks and cleans magnetic plugs.
- 6.4.A Performs the following checks:
  - Checks steering wheel operation for free play or binding.
  - Checks power steering pump, mounting, and hoses for leaks, condition, and routing; checks fluid level.
  - Checks king pin wear.
  - Checks wheel bearings for looseness and noise.
  - Checks oil level and condition in all non-drive hubs; check for leaks.
  - Checks and records suspension ride height.
  - Checks toe-in.
  - Checks tandem axle alignment and spacing.
- 6.4.B Changes power steering fluid and filter.
- 6.4.C Performs the following inspections:
  - Inspects steering gear for leaks and secure mounting.
  - Inspects steering shaft U-joints, pinch bolts, splines, pitman arm-to-steering sector shaft, tie rod ends, linkage, and linkage-assist power steering cylinders.
  - Inspects springs, hangers, shackles, spring U-bolts, and insulators.
  - Inspects shock absorbers for leaks and secure mounting.
  - Inspects air suspension springs, mounts, hoses, valves, linkage, and fittings for leaks and damage.
- 6.4.D Removes and inspects wheel bearings; reassembles and adjusts.
- 6.4.E Lubricates all suspension and steering grease fittings.
- 6.5.A Performs the following inspections:
  - Inspects tires for irregular wear patterns and proper mounting of directional tires.
  - Inspects tires for cuts, cracks, bulges, and sidewall damage.

- Inspects valve caps and stems; replaces as needed.
- Inspects wheels and spacers for cracks or damage.
- 6.5.B Measures and records tread depth; probes for imbedded debris.
- 6.5.C Checks and records air pressure.
- 6.5.D Checks for loose lugs and/or slipped wheels; checks mounting hardware condition; services as needed.
- 6.5.E Torques lugs in accordance with manufacturer's specifications.
- 6.5.F Checks tire matching (diameter and tread) on dual tire installations.
- 6.6.A Inspects fifth wheel mounting bolts, air lines, and locks.
- 6.6.B Tests operation of fifth wheel locking device; adjusts if necessary.
- 6.6.C Checks mud flaps and brackets.
- 6.6.D Checks pintle hook assembly and mounting.
- 6.6.E Lubricates all fifth wheel grease fittings and plate.
- 6.6.F Inspects frame and frame members for cracks and damage.

### SAMPLE PERFORMANCE TASKS

- Create a flow chart of the inspection process.
- Perform a complete maintenance inspection on a vehicle, including documentation.
- Identify and perform indicated maintenance and adjustments.
- Using case scenarios follow strategy based diagnostic procedure to verify the complaint, define the problem, isolate the problem, validate the problem, make the repair, and test the repair. Complete a repair order using technical writing skills and calculate salary earnings based on the repair order description and manufacture allowances for each item on the work order. Calculate manufacturer labor operation time used in the diagnostic process.

### INTEGRATION LINKAGES

Communication Skills, Teamwork Skills, Computer Skills, Reading and Writing Skills, Language Arts, Problem Solving, Interpersonal Skills, Employability Skills, Critical-Thinking Skills, National Institute for Automotive Service Excellence (ASE), National Automotive Technician Education Foundation (NATEF), Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Tennessee Occupational Safety and Health Administration (TOSHA), Secretary's Commission on Achieving Necessary Skills (SCANS), SkillsUSA-VICA

## **DIESEL: PREVENTIVE MAINTENANCE INSPECTION**

### **STANDARD 7.0**

Students will demonstrate communication skills required in the diesel service industry.

### **LEARNING EXPECTATIONS**

The student will:

- 7.1 Communicate and comprehend oral and written communications related to diesel preventive maintenance.
- 7.2 Solve problems and make decisions using a logical process.
- 7.3 Use teamwork skills to accomplish goals, solve problems, and manage conflict within a group.

### **PERFORMANCE STANDARDS: EVIDENCE STANDARD IS MET**

The student:

- 7.1.A Interprets and uses written information in common job formats, such as tables, charts, and reference materials and manuals.
- 7.1.B Interprets and uses graphical information such as blueprints, electrical schematics, process control schematics, automotive flow diagrams, and other diagrams used in preventive maintenance.
- 7.1.C Uses electronic resources to obtain service information.
- 7.1.D Analyzes information obtained from various sources to determine a diagnostic approach.
- 7.1.E Communicates clearly and appropriately in oral and written form.
- 7.1.F Interprets a repair order.
- 7.2.A Develops a hypothesis regarding the cause of a problem.
- 7.2.B Tests the hypothesis to determine the solution to the problem.
- 7.2.C Creates, evaluates, and revises as needed a plan to resolve a problem.
- 7.3.A Serves in each of the functional roles of a team performing diesel maintenance.
- 7.3.B Resolves conflicts within a group.
- 7.3.C Demonstrates appropriate and positive examples of giving and accepting criticism.
- 7.3.D Modifies behavior or revises work based on appropriate criticism.
- 7.3.E Solves problems in cooperation with other members of a group.
- 7.3.F Evaluates the role of the diesel preventive maintenance technician within the organizational system of a dealership service center or fleet shop.

### **SAMPLE PERFORMANCE TASKS**

- Complete a repair order.
- Use reference materials to determine procedures for preventive maintenance.
- Work as a team member to develop a diagnostic strategy.
- Use blueprints and diagrams to execute a task.
- Using case scenarios follow strategy based diagnostic procedure to verify the complaint, define the problem, isolate the problem, validate the problem, make the repair, and test the repair. Complete a repair order using technical writing skills and calculate salary earnings based on the repair order description and manufacture allowances for each item on the work order. Calculate manufacturer labor operation time used in the diagnostic process.

### INTEGRATION LINKAGES

Communication Skills, Teamwork Skills, Computer Skills, Reading and Writing Skills, Language Arts, Problem Solving, Interpersonal Skills, Employability Skills, Critical-Thinking Skills, National Institute for Automotive Service Excellence, National Automotive Technician Education Foundation, Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Tennessee Occupational Safety and Health Administration (TOSHA), Secretary's Commission on Achieving Necessary Skills (SCANS), SkillsUSA-VICA



## **DIESEL: PREVENTIVE MAINTENANCE INSPECTION**

### **STANDARD 8.0**

Students will demonstrate interpersonal and employability skills required in the diesel service industry.

### **LEARNING EXPECTATIONS**

The student will:

- 8.1 Develop interpersonal skills that incorporate relationships between work ethics and organizational and personal job success.
- 8.2 Cultivate attitudes conducive to success in all areas of life.
- 8.3 Maintain a neat and orderly work area.
- 8.4 Comprehend diversity that effects the classroom and workplace.
- 8.5 Exhibit positive employability behaviors and skills.
- 8.6 Organize and manage individual time to enhance work sequencing skills.

### **PERFORMANCE STANDARDS: EVIDENCE STANDARD IS MET**

The student:

- 8.1.A Demonstrates positive “work ethics.”
- 8.1.B Assesses the impact of an individual’s work ethic, positive and negative, on the classroom organizational system.
- 8.1.C Discusses the relationship between work ethics and success and comprehends the effects on earnings.
- 8.2.A Judges which attitudes are conducive to developing successful relationships.
- 8.2.B Modifies behavior to reflect attitudes for success.
- 8.3.A Keeps preventive maintenance work area organized and free from clutter.
- 8.3.B Cleans preventive maintenance work area according to shop standard.
- 8.3.C Deduces the correlation between a clean orderly work environment and successful and efficient preventive maintenance inspection.
- 8.4.A Points out benefits and problems that may arise from diversity in the classroom.
- 8.4.B Devises solutions to potential problems arising from diversity.
- 8.5.A Demonstrates proper dress for work in a diesel service facility.
- 8.5.B Demonstrates appropriate grooming for safe work in a diesel service facility.
- 8.6.A Incorporates time management principles into inspection work in the diesel service industry.
- 8.6.B Displays time management and work sequencing skills while performing preventive maintenance inspections.

### **SAMPLE PERFORMANCE TASKS**

- Maintain an orderly work area.
- Lead a problem-solving team.
- Consistently arrive at class on time.
- Participate in an internship.
- Resolve an interpersonal conflict in the classroom.

### INTEGRATION LINKAGES

Science, Math, Math for Technology, Technology Literacy, Applied Communications, Problem-Solving, National Institute for Automotive Service Excellence (ASE), National Automotive Technician Education Foundation (NATEF), Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Tennessee Occupational Safety and Health Administration (TOSHA), Secretary's Commission on Achieving Necessary Skills (SCANS), SkillsUSA-VICA

## **DIESEL: PREVENTIVE MAINTENANCE INSPECTION**

### **SAMPLING OF AVAILABLE RESOURCES**

*T8 Preventive Maintenance Inspection (PMI) Curriculum Module*, AYES Corporation,  
[www.ayes.org](http://www.ayes.org)

*2001 Medium/Heavy Duty Truck Task List*, National Automotive Technicians Education  
Foundation (NATEF)

*Diesel Technology: Workplace Skills*, Instructional Materials Laboratory (IML), University of  
Missouri

*Diesel Technology: Safety Skills*, Instructional Materials Laboratory (IML), University of  
Missouri

*Curriculum Integrator*, CORD Communications, Waco, Texas 1998

*Diesel Technology*, Goodheart-Willcox, 2001.